

*Ash Meadows
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LAND PROTECTION PLAN

PROPOSED ACQUISITION TO ESTABLISH
ASH MEADOWS NATIONAL WILDLIFE REFUGE
NYE COUNTY, NEVADA

PREPARED BY
DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
REGION 1, PORTLAND, OREGON
March, 1984

Author: Donald W. Sada

Land Protection Plan
for
Proposed Acquisition to Establish
Ash Meadows National Wildlife Refuge
Nye County, Nevada

This Land Protection Plan presents the most desirable alternatives for consideration in implementing action to acquire approximately 14,075 acres of privately owned land and 9,373 acres of public domain land, protectively withdrawn, in Ash Meadows, Nevada. Acquisition of this land is deemed necessary to protect the endemic plants and animals of the area by establishing the Ash Meadows National Wildlife Refuge. This Plan is consistent with applicable law, policy, and other appropriate guidance and is recommended for approval.

Proposed: _____
Regional Director, Portland, OR _____ Date

Recommended _____
Associate Director-Wildlife Resources _____ Date

Concur: _____
Assistant Director-Policy and Budget _____ Date

Approved: _____
Director, Fish & Wildlife Service _____ Date

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I. PROBLEM/NEED

A. Problems and Major Issues

Ash Meadows is located in southern Nye County, Nevada and southeastern Inyo County, California. It lies approximately 90 miles northwest of Las Vegas and 40 miles east of Death Valley National Monument (Fig. 1). It includes approximately 48,000 acres of land characterized by spring-fed wetlands (Fig. 2) and arid uplands and is habitat for at least 26 plants and animals found nowhere else in the world. 1/ Four of its endemic 2/ fishes are presently listed by the U.S. Fish and Wildlife Service as endangered; seven rare or endemic plants and one endemic insect are presently proposed by the Service for listing 3/ as endangered.

Ash Meadows has been impacted by agricultural activities and construction for a municipal development; these activities have reduced the habitat occupied by endemic species to only a portion of the area occupied prior to disturbance. Continuation of such activities will cause extinction of all endemic species.

1/ The highest concentration of endemic species in North America is found at a spring/oasis area named Cuatrociénegas in northeastern Mexico (Minckley 1969).

2/ endemic--unique to a particular region or locality.

3/ Species recognized as endangered or threatened, proposed endangered or threatened, or candidates for future listing as endangered or threatened are respectively recognized by a formal listing that is published in the Federal Register.

The U.S. Fish and Wildlife Service proposes to acquire approximately 14,075 acres of private land and approximately 9,373 acres of public land, protectively withdrawn, to protect the endemic plants and animals of the area by establishing the Ash Meadows National Wildlife Refuge.

B. Authorities

The Endangered Species Act of 1973 (87 Stat. 884), as amended and previous land acquisition legislation authorize the acquisition of land for the conservation of wildlife with funds made available through the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4 to 4601-11). Congressional legislation (H.R. - 3069) has facilitated a special appropriation of \$5 million from the Land and Water Conservation Fund for acquisition of private lands and waters in Ash Meadows.

C. Time Frame

As with any endangered species, the longer it takes to implement protection strategies, the greater the chances that detrimental actions will cause extinction.

The single, largest, private landowner in Ash Meadows is Preferred Equities Corporation (PEC) (12,654 acres) which has plans, approved by the State of Nevada and Nye County, for development of a municipal and

agricultural community (Calvada Lakes) 4/ for approximately 50,000 residents. Realization of this development would directly eliminate approximately 80 percent of aquatic and terrestrial habitats occupied by endemic plants and animals and indirectly impact the remaining 20 percent through activities associated with a large municipality.

PEC has agreed to sell all of its holdings to The Nature Conservancy (TNC). The U.S. Fish and Wildlife Service (USFWS) then would acquire these lands from TNC using the \$5 million specially appropriated. TNC would act as an interim owner until the USFWS could prepare the necessary documentation required for purchase of the former PEC land. The purchase from TNC must occur promptly to minimize its financial commitment.

Activities on other private holdings in Ash Meadows pose little threat to endemic resources, because they are predominately small parcels occupied by relatively small populations of listed, proposed, and candidate plants and animals. Purchase of these lands (Fig. 3 and Table I), to consolidate refuge holdings and facilitate management, would be in the future on a willing seller basis.

Withdrawal of public lands is necessary to protect populations of endemic species from detrimental impacts of physical disturbance, groundwater removal, and future mining. Withdrawal would reduce management costs and increase management efficiency of the new refuge by centralizing responsibility.

4/ Hereafter in the text, CL (Calvada Lakes) will be synonymous with CLD (Calvada Lakes Development).

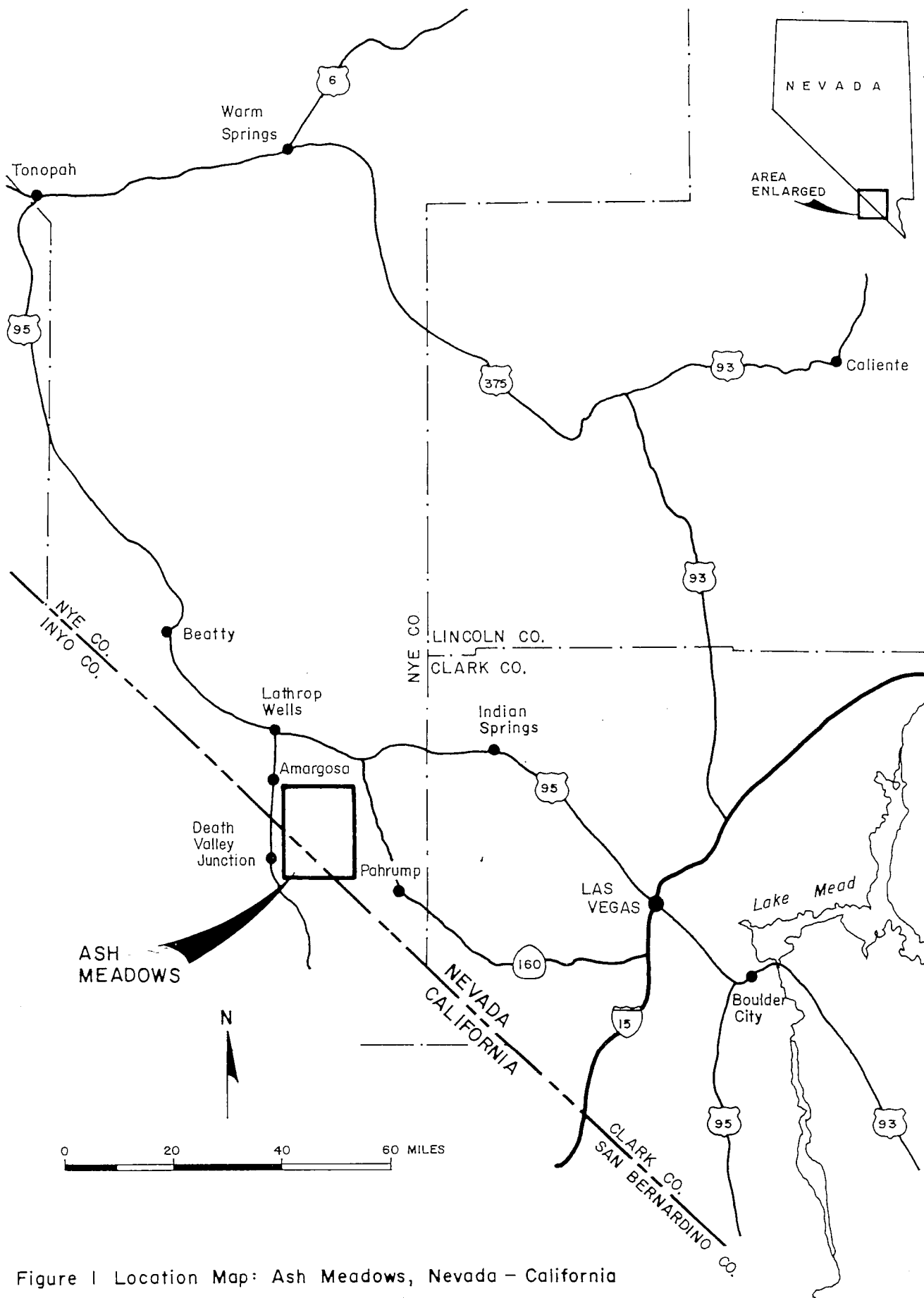


Figure 1 Location Map: Ash Meadows, Nevada - California

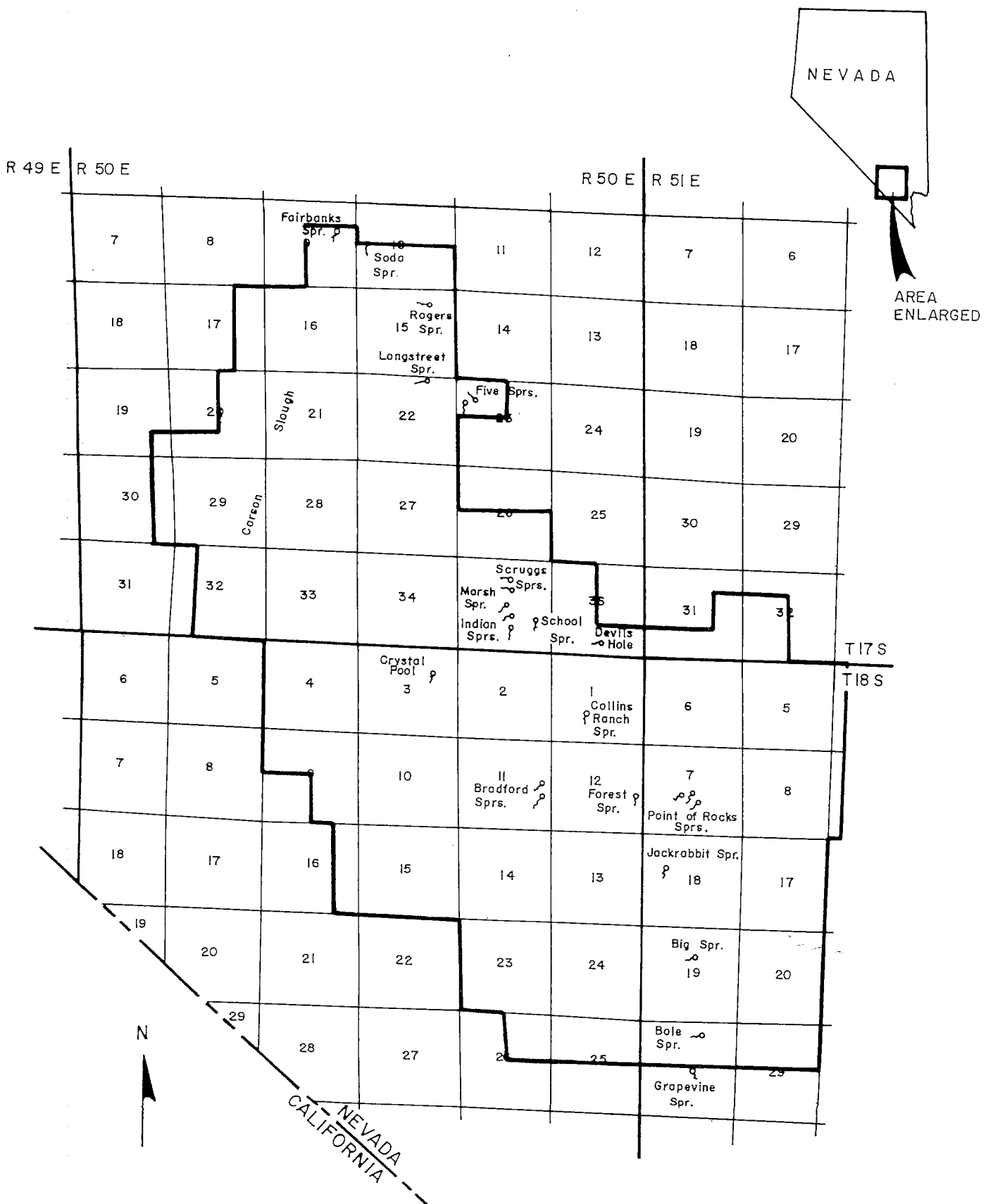


Figure 2 Springs Within Ash Meadows Area and Proposed Refuge Boundary

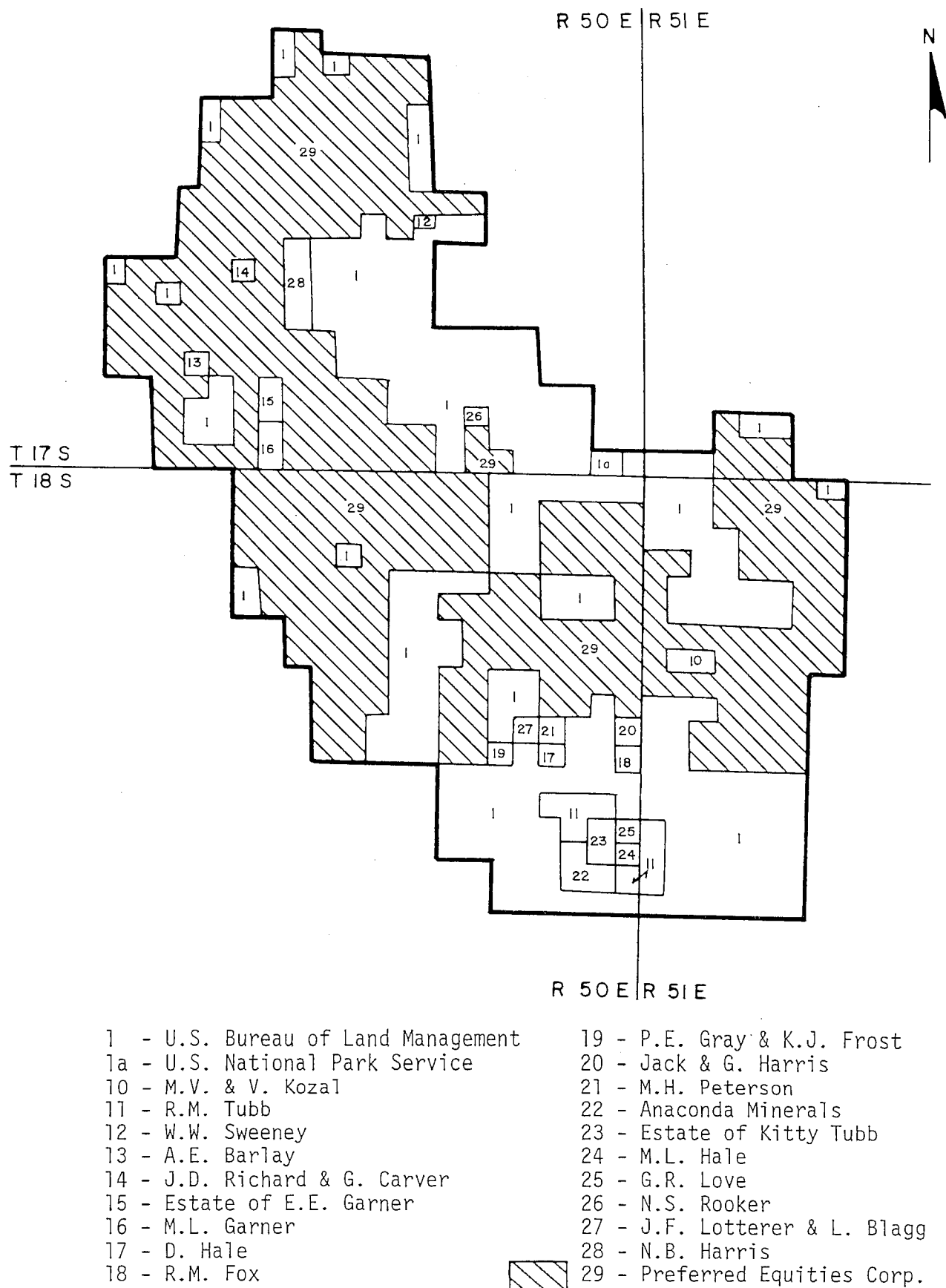


Figure 3 Tract Ownerships Within Proposed Ash Meadows National Wildlife Refuge

TABLE I

Tract, Ownerships Within Proposed Ash Meadows National Wildlife Refuge

Owner	Tract No.	Approximate Acreage
U.S. Bureau of Land Management	1	9,373
U.S. National Park Service	1a	40
*Ash Meadows School	3	1
M.V. & V. Koza1	10	80
R.M. Tubb	11	310.41
W.W. Sweeney	12	20
A.E. Barlay	13	40
J.D. Richard & G. Carver	14	40
Estate of E.E. Garner	15	80
M.L. Garner	16	80
D. Hale	17	40
R.M. Fox	18	40
P.E. Gray & K.J. Frost	19	40
Jack & G. Harris	20	40
M.H. Peterson	21	62.5
Anaconda Minerals	22	120
Estate of Kitty Tubb	23	80
M.L. Hale	24	31.052
G.R. Love	25	36
N.S. Rooker	26	40
J.F. Lotterer & L. Blagg	27	30
N.B. Harris	28	160
Preferred Equities Corp.	29	12,654

TABLE I (Continued)

Owner	Tract No.	Aproximate Acreage
*R. Schneehagan	30	4.6875
*M. Werner	31	10
*G.W. & A. Aschenbrenner	32	10
*V.A. & F.M. Koller	33	5
*J.L. Thatcher	34	7.5
*R. Wilbur	35	4
*I.K. Deeds	36	8.948
Total Public Lands		<u>9,414</u>
Total Private Lands		<u>14,074.09</u>
Total Acreage		<u>23,478.09</u>

* Tracts too small to show on map (Figure 3).

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II. PROGRAM OBJECTIVES

A. Major Resource Values

The land (Fig. 3) proposed for inclusion into the Ash Meadows National Wildlife Refuge contains most of the habitat occupied by approximately 26 endemic species of plants and animals (Table II). Also Included is a limited area where, according to hydrologic data, groundwater removal will most adversely affect the water level and/or discharge of springs occupied by endangered fishes and supporting populations of proposed, endangered, and candidate species. All critical habitat for the Ash Meadows Amargosa pupfish and Ash Meadows speckled dace occurs here. Much of the proposed critical habitat for the plants King ivesia, spring-loving centaury, Ash Meadows milk- vetch, Ash Meadows stickleaf, Ash Meadows sunray, Ash Meadows gumplant, and Point of Rocks naucorid (insect) is found here (Fig. 4). Additionally, this area includes all the essential habitat of the Warm Springs pupfish and a portion of essential habitat of the Devils Hole pupfish. These habitats, according to approved recovery plans, must be protected to accomplish recovery of these two fishes. Table III lists the endemic plants and animals of Ash Meadows that are recognized by state and federal resource agencies as being rare, threatened, or endangered.

The local distribution of endemic plant and animal taxa 1/ (Fig. 5) within Ash Meadows, the fragile nature of these desert aquatic and

1/ Taxa is the plural of taxon; a taxon is a category or group of plants or animals developed by formal, scientific classification.

TABLE II

Endemic Plants and Animals of Ash Meadows

Common Name	Scientific Name
<u>Dry Uplands</u>	
Plants:	
Ash Meadows blazing star	(<u>Mentzelia leucophylla</u>)
Ash Meadows milk-vetch	(<u>Astragalus phoenix</u>)
Ash Meadows sunray	(<u>Enceliopsis nudicaulis corrugata</u>)
Amargosa niterwort	(<u>Nitrophila mohavensis</u>)
<u>Springs/Riparian</u>	
Fishes:	
Ash Meadows Amargosa pupfish	(<u>Cyprinodon nevadensis mionectes</u>)
Ash Meadows speckled dace	(<u>Rhinichthys osculus nevadensis</u>)
Devils Hole pupfish	(<u>Cyprinodon diabolis</u>)
Warm Springs pupfish	(<u>Cyprinodon nevadensis pectoralis</u>)
*Ash Meadows killifish	(<u>Empetrichthys merriami</u>)
Plants:	
King ivesia	(<u>Ivesia eremica</u>)
Ash Meadows gumplant	(<u>Grindelia fraxino-pratensis</u>)
Molluscs:	
Point of Rocks Springs snail	(<u>Fluminicola erythropoma</u>)
Sporting goods Tryonia	(<u>Tryonia sp.</u>)
Indeterminate Nevada spring snail	Undescribed genus and species
Small slender Tryonia	(<u>Tryonia sp.</u>)
Point of Rocks Tryonia	(<u>Tryonia sp.</u>)

TABLE II (Continued)

Common Name	Scientific Name
Median gland Nevada spring snail	Undescribed genus and species
Minute slender Tryonia	(<u>Tryonia</u> <u>sp.</u>)
Small solid Tryonia	(<u>Tryonia</u> <u>sp.</u>)
Large-gland Nevada spring snail	Undescribed genus and species
*Longstreet Spring snail	Undescribed genus and species
Devils Hole Amargosa Tryonia	(<u>Tryonia</u> <u>sp.</u>)
Ash Meadows virile Amargosa snail	(<u>Fontellicella</u> <u>sp.</u>)
Mammals:	
*Ash Meadows vole	(<u>Microtus</u> <u>montanus</u> <u>nevadensis</u>)
Insects:	
Devils Hole riffle beetle	(<u>Stenelmis</u> <u>calidae</u> <u>calidae</u>)
Point of Rocks Springs naucorid	(<u>Ambrysus</u> <u>amargosus</u>)

* Species unseen for several years and probably extinct.

TABLE III

Official Status of Endemic and Rare Plants and Animals of Ash Meadows

1. Listed as endangered by U.S. Fish and Wildlife Service

Devils Hole pupfish	Ash Meadows Amargosa pupfish
Ash Meadows speckled dace	Warm Springs pupfish

2. Proposed as endangered by U.S. Fish and Wildlife Service

Amargosa niterwort	Ash Meadows gumplant
Spring-loving centaury	Ash Meadows blazing star
Ash Meadows milk-vetch	Point of Rocks Springs naucorid

3. Candidates for future federal listing as threatened or endangered

King ivesia	Median-gland Nevada spring snail
Tecopa bird's beak	Minute slender Tryonia
Merriam bear poppy	Small solid Tryonia
Ash Meadows vole	Large-gland Nevada spring snail
Point of Rocks Springs snail	Longstreet Spring snail
Sporting goods Tryonia	Ash Meadows virile Amargosa snail
Small slender Tryonia	Devils Hole riffle beetle
Point of Rocks Tryonia	

TABLE III (Continued)

4. Listed as protected by State of Nevada Board of Wildlife Commissioners
(NRS 501.110, 501.181).

Ash Meadows Amargosa pupfish

Warm Springs pupfish

5. Listed as endangered by State of Nevada Board of Wildlife Commissioners
(NRS 501.110, 501.181).

Devils Hole pupfish

Ash Meadows speckled dace

6. Listed as endangered by Nevada State Forester Firewarden
(NRS 527.270).

Ash Meadows milk-vetch

Ash Meadows sunray

Ash Meadows gumplant

Ash Meadows blazing star

Legend for taxa

Fishes

- Ash Meadows Amargosa pupfish (Cyprinodon nevadensis ssp. mionectes)
- Warm Springs pupfish (Cyprinodon nevadensis ssp. pectoralis)
- Devil's Hole pupfish (Cyprinodon diabolis)
- Ash Meadows speckled dace (Rhinichthys osculus ssp. nevadensis)

Plants

- Ash Meadows stickleaf (Mentzelia leucophylla)
- Ash Meadows gumplant (Grindelia fraxino-pratensis)
- Amargosa niterwort (Nitrophila mohavensis)
- Ash Meadows milk-vetch (Astragalus phoenix)
- Ash Meadows sunray (Enceliopsis nudicaulis var. corrugata)
- King ivesia (Ivesia eremica)

Insects

- △ Point of Rocks Springs naucorid (Ambrysus amargosus)
- △ Devil's Hole riffle beetle (Stenelmis calidae ssp. calidae)

Snails

- ① Sportinggoods tryonia
- ② Indeterminate Nevada spring snail
- ③ Small slender tryonia
- ④ Point of Rocks tryonia
- ⑤ Point of Rocks spring snail
- ⑥ Median-gland Nevada spring snail
- ⑦ Minute slender tryonia
- ⑧ Small solid tryonia
- ⑨ Large-gland Nevada spring snail
- ⑩ Longstreet Spring snail
- ⑪ Devil's Hole Amargosa tryonia
- ⑫ Ash Meadows virile Amargosa snail

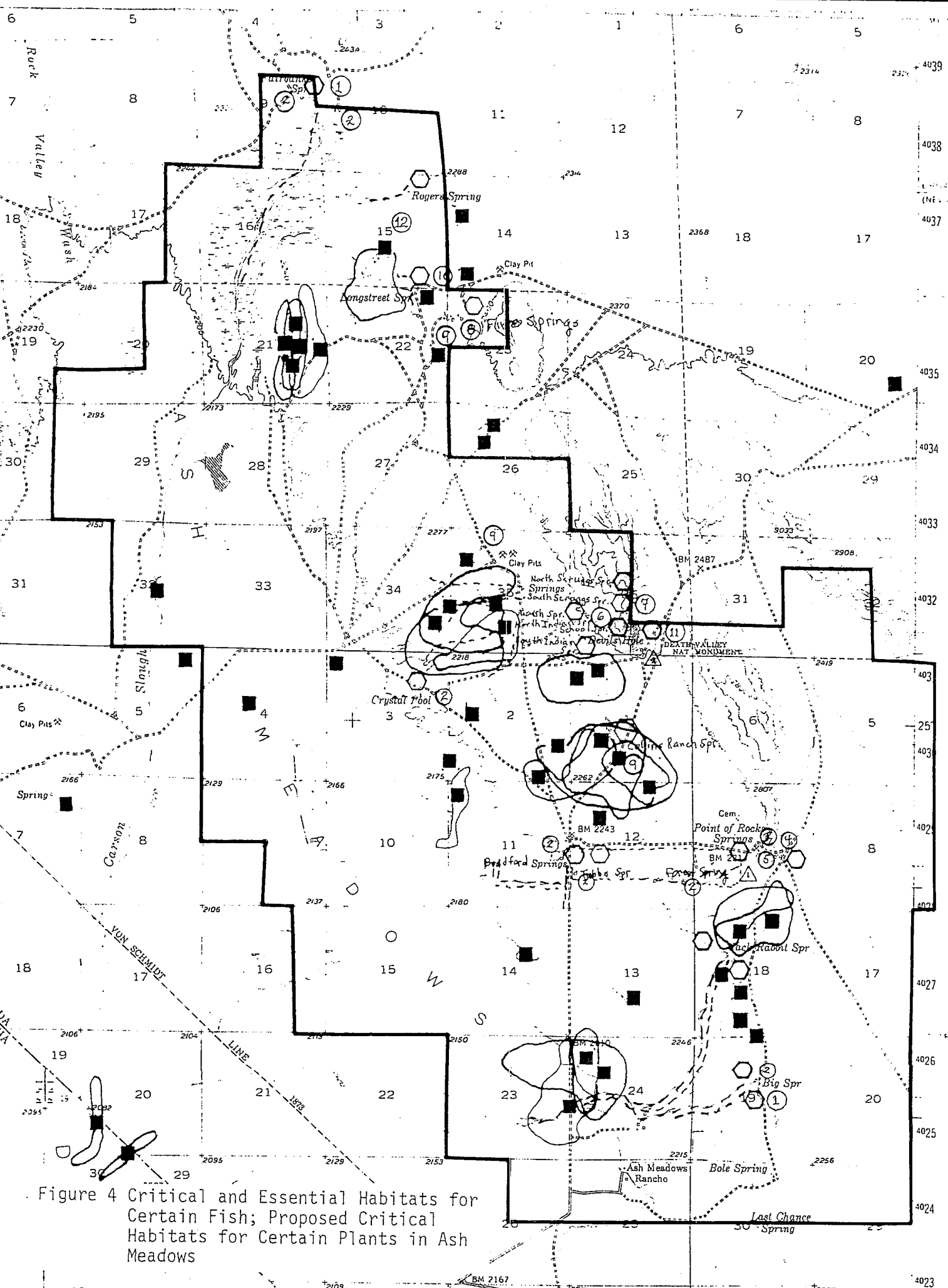


Figure 4 Critical and Essential Habitats for Certain Fish; Proposed Critical Habitats for Certain Plants in Ash Meadows

LEGEND

Designated Critical Habitat

-----○ Ash Meadows Amargosa pupfish

-----○ Ash Meadows speckled dace

Proposed Critical Habitat

————— Ash Meadows milk-vetch

————— Ash Meadows dumplant

————— Amargosa niterwort

————— Ash Meadows stickleaf

————— Ash Meadows sunray

————— King Ivesia

.....Spring-loving Centaury

Essential Habitat

Devils Hole pupfish

----- Warm Springs pupfish

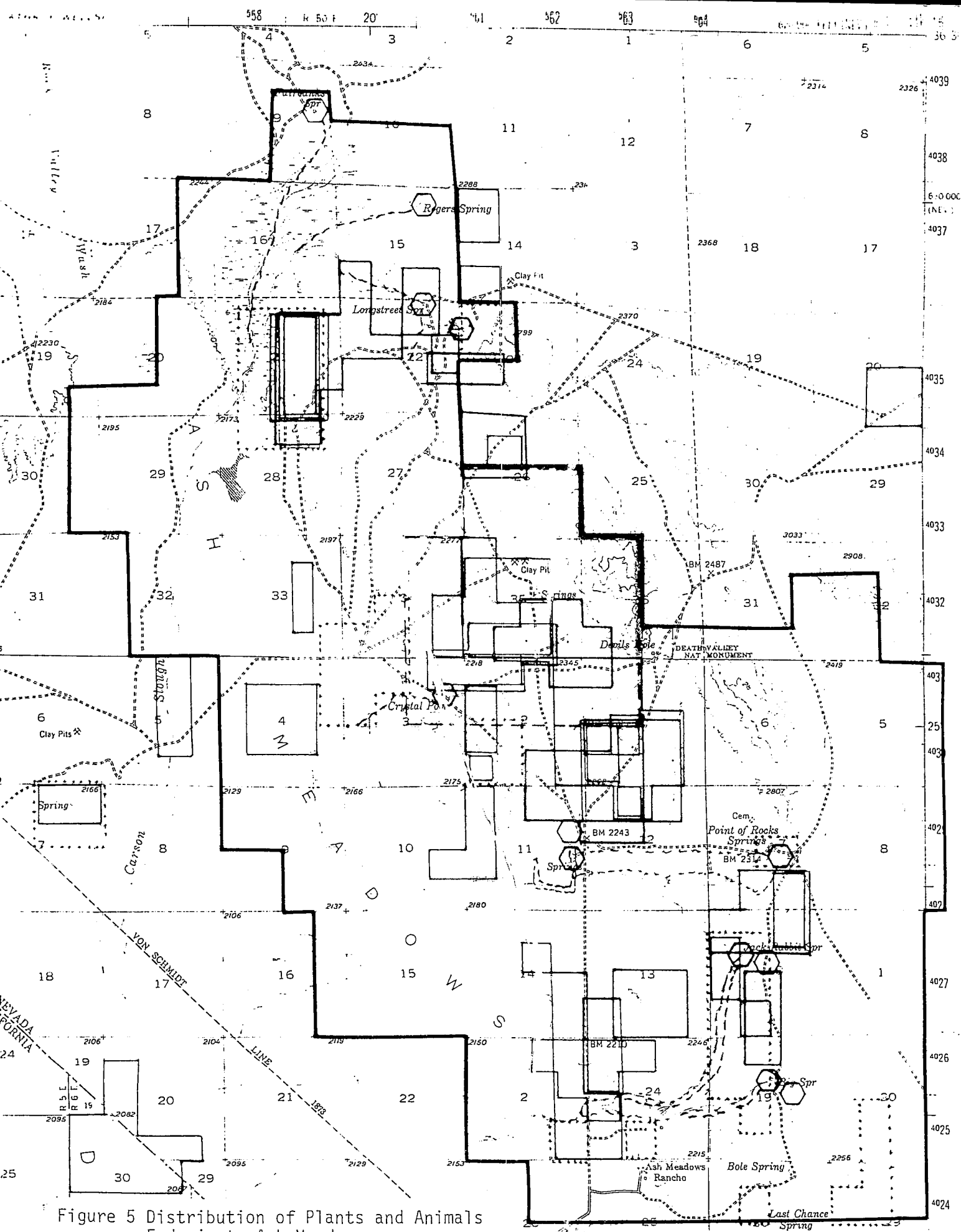


Figure 5 Distribution of Plants and Animals
Endemic to Ash Meadows

terrestrial environments, the intimate relationship between spring discharge viability and aquifer integrity, and the historic presence of a large marsh in Carson Slough all combine to support the proposed refuge boundary as being necessary. Ash Meadows provides a valuable and unprecedented example of desert oases that are now extremely uncommon in the southwestern U.S. With proper management, this area could also provide a productive waterfowl and upland game resource to be used for hunting.

B. National or Regional Objectives

Implementation of this proposal would partially accomplish goals for recovery of the Devils Hole pupfish and Warm Springs pupfish. These goals are identified in their respective, approved, recovery plans. Section C of the Interior Basin; Endangered Species Resource portion of the U.S. Fish and Wildlife Service Region 1, Regional Resource Plan identifies protection of the Ash Meadows Ecosystem as being a Priority 1 Management Objective. This plan further states that extinction of species endemic to Ash Meadows can be prevented by securing existing habitat.

The U.S. Fish and Wildlife Service Management Plan (September, 1982) states that the agency goal for the Endangered Species Program is, "To prevent the endangerment and extinction of plant and animal species caused by man's influence on existing ecosystems, and to return such species to the point where they are no longer threatened or endangered." The U.S. Fish and Wildlife Service goal for migratory birds

states, "To conserve and manage migratory birds in a way that provides optimum opportunity for their use and enjoyment by people."

C. Project Objective

The objective of this proposal is to protect a unique desert oasis ecosystem that provides habitat for the greatest local concentration of unique plants and animals found anywhere within the United States. This protection would be provided by including the area within the National Wildlife Refuge System and managing activities specifically to conserve the sensitive species. A management plan would be prepared to describe the appropriate management; its preparation would utilize approved recovery plans for the Devils Hole pupfish and Warm Springs pupfish plus a recovery plan that would be prepared to guide the recovery and protection of all other listed and candidate organisms in Ash Meadows.

III. RESOURCE PROTECTION ALTERNATIVES REVIEWED

A. Fee Acquisition of PEC and Other Private Lands and Subsequent Formation of National Wildlife Refuge

This is the Service's preferred alternative and represents the proposed action.

Implementing this alternative means management of the acquired lands would be dedicated to the conservation of native and endemic flora and fauna by including Ash Meadows within the National Wildlife Refuge System. This alternative would utilize the \$5 million authorized by Congress to establish the Ash Meadows National Wildlife Refuge. The following results would be incurred:

1. The best possible protection for the endemic plants and animals would be available while also maximizing recreational use of the area. Disturbed areas would be reclaimed to their natural character; this would include reestablishing the marsh in Carson Slough, reestablishing the endemic plants and animals in those areas from which they were eliminated, reestablishing mesquite woodlands that were destroyed or displaced by saltceder (Tamarisk sp.) and crop production, and eliminating exotic and nonnative plants and animals. Management of the area would encourage hunting of upland game and waterfowl and visitation for educational, recreational, and scientific reasons. Farming and grazing

activities would not be compatible with the management of game birds or endemic plants and animals and would not be allowed.

2. The overall area proposed for protection is shown in Figs. 2 and 3. As the land ownership map (Fig. 3) shows, approximately 9,373 acres within the proposed boundary are public domain lands managed by the U.S. Bureau of Land Management (USBLM). To provide adequate protection to the Ash Meadows ecosystem, it will be necessary to withdraw these lands from uses that are generally incompatible with wildlife conservation. These include mining, groundwater removal, application for Desert Land Entry, release of land from public ownership, and livestock grazing. The total withdrawal would not have to occur immediately. The proposed withdrawal for Warm Springs pupfish, Ash Meadows Amargosa pupfish, Ash Meadows speckled dace, and candidate plants should be finalized soon, and the immediate withdrawal of 3,112 additional acres would be necessary to protect endemic plant and animal populations not located within the area of proposed withdrawal mentioned above. Fig. 6 shows the lands that should be withdrawn immediately. Within the proposed boundary, remaining USBLM land not withdrawn immediately should be managed by the USFWS through a Memorandum of Understanding (MOU) agreed upon by the two agencies. Withdrawal of these lands should occur sometime in the near future.

The proposed boundary was selected to encompass the area required to protect the habitats (Figs. 7, 8, and 9) presently and formerly

occupied by endemic plants and animals. The northwestern portion of the proposed refuge includes Carson Slough (Fig. 10). The former marsh (Fig. 11) in this slough would be reestablished for waterfowl production and hunting. The 40 acres that include Devils Hole Monument, managed by the U.S. National Park Service (NPS), occur within the proposed refuge boundary. Jurisdiction over this land, however, would remain with the NPS.

3. Private water rights would be purchased with land. The priority use of these waters will be to conserve the endemic plants and animals and increase populations of waterfowl and upland game for recreational use. The amount of water to be purchased is that amount certified to Ash Meadows land owners by the State of Nevada.

Since exchange for other public lands in southern Nevada is not feasible, PEC prefers this alternative. To implement this alternative as quickly as possible and reimburse PEC as soon as possible, TNC has agreed to purchase the property initially and then sell it to the USFWS.

B. No Action

This alternative means the USFWS would not acquire private lands in Ash Meadows. By this alternative the following could be expected:

Photo

Figure 7 Crystal Pool, on PEC land, has largest discharge of all springs in Ash Meadows. Presently, it is habitat for Ash Meadows Amargosa pupfish.

Photo

Figure 3 Big Spring, on USBLM land, and its outflow are habitat for Ash Meadows *Amargosa* pupfish and Ash Meadows speckled dace.

Photo

Figure 9 Jackrabbit Spring, on USBLM land, is habitat for Ash Meadows Amargosa pupfish and Ash Meadows speckled dace.

Photo

Figure 10 Site of Carson Slough. Reestablishment of its marshland, mostly nonexistent now, is planned as part of Ash Meadows N.W.R.

Photo

Figure 11 Marshland remaining in Carson Slough. This type of marsh will be reestablished on approximately 1,500 acres of Carson Slough.

1. Calvada Lakes development (CLD) would proceed much as planned.
The federally listed endangered animals would be protected from take, harm, or harassment; however, they would not be protected from secondary impacts such as pollution, introduction of exotic plants and animals, and groundwater mining. All taxa endemic to Ash Meadows would become extinct in the foreseeable future.
2. There would be no protection afforded to plants and animals endemic to Ash Meadows but not listed as threatened or endangered. The USFWS would be petitioned to list additional species in Ash Meadows as endangered or threatened. 1/
3. Maintaining the ecosystem supporting listed animals in Ash Meadows would be difficult because of the activities and developments associated with a metropolitan area such as Calvada Lakes.
4. Litigation against the USFWS and/or PEC could be expected because of the impacts the proposed development would have on listed animals.

PEC has stated that this alternative is unacceptable to satisfy its interests.

1/ The USFWS currently is responding to a petition to list seven plants and one insect found in Ash Meadows by proposing them as endangered species pursuant to the 1973 Endangered Species Act.

C. Acquisition of Only Key Habitats within Ash Meadows and Placing Them Into Refuge Status

Implementing this alternative means areas with localized populations of endemic plants and animals would be placed into the National Wildlife Refuge System. Public use in these areas would be managed. The following results could be expected:

1. CLD would proceed much as planned. Key areas would be protected from the direct impacts of municipal development (e.g. housing and road construction). This would protect the concerned taxa during the immediate future.
2. Key habitats is a misleading concept, since the distribution of a number of Ash Meadows endemic organisms is extremely restricted and isolated from other populations of endemics. To include all endemic taxa within key habitats would require protecting a number of small areas. The small size of many habitats would make them exceptionally vulnerable to single-event catastrophies that could cause species extinction.
3. Management of key habitats would be difficult, for they are small and distantly removed from one another. Therefore, securing these habitats on a long-term basis would be difficult and probably impossible. It is believed that the secondary impacts of exotic fish introduction, pollution, groundwater removal, and/or vandalism would alter these habitats such that they could no longer be occupied by the endemic plants and animals.

Preferred Equities Corporation has stated that this alternative will not satisfy its financial interests.

D. Exchange for Public Land

Through this alternative, PEC would trade all of its holdings in Ash Meadows (including land, water, and mineral rights) for public domain land currently administered by the U.S. Bureau of Land Management. The following results could be expected:

1. Sensitive species would not be impacted by CLD.
2. Sensitive species would not receive maximum protection, because the USBLM is a multiple use agency. Although the 1973 Endangered Species Act requires federal agencies to conserve threatened and endangered species, programs permitted by the USBLM could adversely affect, although not jeopardize, the continued existence of sensitive organisms.
3. Future listing of sensitive species in Ash Meadows could be required because of threats posed by USBLM programs that may be proposed in the future.
4. The marsh in Carson Slough probably would not achieve maximum production for waterfowl, because the USBLM does not have the manpower necessary to specifically reestablish and manage a marsh. the size of this slough.

5. With proper management, plants and animals endemic to Ash Meadows would not become extinct in the foreseeable future.

PEC requested an exchange for its holdings in Ash Meadows for public lands in southern Nevada. The USBLM determined that this alternative was unfeasible because of 1) relative scarcity of potential exchange lands in light of Santini-Burton and Asset Management programs and 2) the magnitude of manpower and resources commitments relative to such a large exchange.

E. Acquisition/Management by Others

Private organizations, such as TNC, and public agencies such as the National Park Service and Nevada Department of Wildlife, could manage the area for its educational, recreational, and scientific values.

This alternative is not acceptable for the following reasons:

1. TNC and other known private, conservation organizations do not have the financial resources to purchase and manage Ash Meadows.
2. Management by the NPS would prohibit waterfowl and upland game hunting which are important recreational resources that are scarce in southern Nevada.

3. The Nevada Department of Wildlife does not have the financial resources necessary to manage the refuge and support the expertise necessary to reestablish endemic and native plants and animals. However, it has voiced its desire to be cooperatively involved with management.

IV. SUMMARY OF ALTERNATIVES

Table IV presents a summary and analysis of sociological, cultural, and environmental impacts of the alternatives presented in this report.

TABLE IV
Summary of Alternative Impacts

EVALUATION CRITERIA AND IMPACTS	Alternatives				
	Fee Acquisition and Formation of N.W.R.	No Action	Partial Acquisition (Key Habitats)	Exchange for Public Land	Acquisition/Management by Others
Biological Impacts	<ol style="list-style-type: none"> 1. Listed & candidate species protected from impacts of CLD 2. Protection & enhancement of listed & candidate species maximized 3. Carson Slough marsh reestablished to full potential (waterfowl production) 4. Future listing of plants or animals probably not required 5. Ash Meadows ecosystem protected in perpetuity 	<ol style="list-style-type: none"> 1. Presently listed animals protected from take, harm, or harassment; candidate species unprotected 2. Listed & candidate species become extinct from long-term, secondary impacts 3. Carson Slough marsh not reestablished (waterfowl populations decline) 4. Most wetlands destroyed by immediate impacts; none protected from long-term impacts 	<ol style="list-style-type: none"> 1. Listed & candidate species within key habitats protected from development impacts 2. No listed or candidate species protected from long-term impacts; sensitive species become extinct 3. Carson Slough marsh not reestablished 4. Selected wetlands protected from immediate impacts; others not; none protected from long-term impacts 	<ol style="list-style-type: none"> 1. Listed & candidate species protected from impacts of CLD 2. Protection & enhancement of listed & candidate species not maximized 3. Carson Slough marsh not reestablished to full potential 4. Wetlands protected from impacts of CLD 5. USBLM lands managed for multiple purposes that may conflict with conservation of endemic species 	<ol style="list-style-type: none"> 1. Listed & candidate species protected from impacts of CLD 2. Protection & enhancement of listed & candidate species possibly not maximized 3. Carson Slough marsh possibly not reestablished to full potential 4. Wetlands protected
Socio-Economic Impacts 1. Preferred Equities Corporation (PEC)	<ol style="list-style-type: none"> 1. CLD precluded 2. TNC pays PEC fair market value for its lands 3. TNC deeds fee title to Ash Meadows lands, purchased from PEC, to USFWS 4. Future listing of plants or animals not required 	<ol style="list-style-type: none"> 1. CLD proceeds at reduced level to avoid killing or harming listed animals 2. PEC not reimbursed for protecting areas containing listed animals 3. CLD actions harming or killing listed animals incur litigation & possible delay 	<ol style="list-style-type: none"> 1. CLD proceeds at reduced level 2. PEC retains property ownership & is compensated for lands it can't develop due to conservation easements 3. Possibility of litigation minimized 	<ol style="list-style-type: none"> 1. CLD precluded 2. PEC receives public domain land of comparable value to its lands in Ash Meadows 	<ol style="list-style-type: none"> 1. CLD precluded 2. PEC compensated through purchase of its Ash Meadows lands

TABLE IV (Continued)
Summary of Alternative Impacts

EVALUATION CRITERIA AND IMPACTS	Alternatives				
	Fee Acquisition and Formation of N.W.R.	No Action	Partial Acquisition (Key Habitats)	Exchange for Public Land	Acquisition/Management by Others
<p>Socio-Economic Impacts (continued)</p> <p>2. Other Private Landowners in Ash Meadows</p>	<ol style="list-style-type: none"> 1. Land values probably not increased 2. No change in lifestyle 3. Opportunity to sell land 4. Actions that harm or kill listed animals precluded 5. Farming & grazing on refuge lands eliminated 	<ol style="list-style-type: none"> 1. Land values probably increase 2. Lifestyle changes to accommodate large population 3. Actions that harm or kill listed animals precluded 	<ol style="list-style-type: none"> 1. Possibly asked to sell small parcels of total holding 2. Actions that harm or kill listed animals precluded 	<ol style="list-style-type: none"> 1. Land values probably not increased 2. No change in lifestyle 3. Actions that harm or kill listed animals precluded 	<ol style="list-style-type: none"> 1. Land values probably not increased 2. No change in lifestyle 3. Possible opportunity to sell land 4. Actions that harm or kill listed animals precluded 5. Farming and grazing possibly eliminated
<p>3. Nye County and Local Governments</p>	<ol style="list-style-type: none"> 1. Former PEC & other private property nontaxable in federal ownership (N.W.R.) 2. Nye County receives Refuge Revenue Sharing Act receipts relative to approximately 12,654 PEC acres & other private property (if eventually acquired) 3. Local economy benefits from tourism & refuge visits--recreation, etc. 4. Local economy not greatly expanded without CLD 5. No increased financial commitments for public services 	<ol style="list-style-type: none"> 1. Property tax base & receipts increase because of CLD 2. Local economy stimulated by CLD 3. Increased financial commitments for public services 	<ol style="list-style-type: none"> 1. Property tax base & receipts increase because of CLD 2. Local economy stimulated by CLD 3. Increased financial commitments for public services 4. Lands acquired by USFWS permit Refuge Revenue Sharing Act payments to county 	<ol style="list-style-type: none"> 1. Property tax base transfers from Ash Meadows to another area; receipts to Nye County reduced if transfer is to another county 2. Land removed from county tax rolls 3. Nye County receives no monies from Federal Government in lieu of property taxes 4. Local economy not stimulated to fullest extent possible but improves over present 5. No increased financial commitments for public services 	<ol style="list-style-type: none"> 1. Property nontaxable if in federal or State of Nevada ownership 2. Local economy benefits from tourism & refuge visits--recreation, etc. 3. No increased financial commitments for public services if land in federal ownership

TABLE IV (Continued)
Summary of Alternative Impacts

EVALUATION CRITERIA AND IMPACTS	Alternatives				
	Fee Acquisition and Formation of N.W.R.	No Action	Partial Acquisition (Key Habitats)	Exchange for Public Land	Acquisition/Management by Others
Socio-Economic Impacts (continued) 4. U.S. Fish and Wildlife Service (USFWS)	1. National Wildlife Refuge formed; USFWS invites cooperation of USBLM & Nevada Department of Wildlife in managing refuge 2. \$5 million one-time cost & additional future costs to acquire inhold- ings of willing sellers 3. Opportunities for educational, recre- ational, & scientific pursuits maximized 4. Public opposition to additional acquisition of land by Federal Government	1. Responsibility con- tinues to insure against taking of listed animals 2. Further listing of species probably occurs 3. Increase in local, neg- ative, public reaction to additional listings of species 4. U.S. Treasury saves \$5 million appropriated for acquisition of PEC lands & additional future costs to acquire inholdings of willing sellers 5. Possible litigation for unenforcement of Endangered Species Act	1. Increased management responsibility to protect key areas 2. Future listing of species required 3. U.S. Treasury saves portion of \$5 million appropriated for acqui- sition of PEC lands	1. Increased coordination between USFWS and USBLM to manage endemic species 2. U.S. Treasury saves \$5 million appropriated for purchase of PEC lands	1. USFWS uninvolved except for techni- cal assistance & possible listing of additional species
5. U.S. Bureau of Land Management (USBLM)	1. Management responsibil- ity of USBLM lands within refuge trans- fers to USFWS 2. Protective withdrawal of approximately 9,373 acres of public domain lands	1. USBLM required by law to conserve listed species & their habitat on public domain lands 2. Withdrawal proceeds for Warm Springs pupfish, Ash Meadows pupfish, & Ash Meadows speckled dace 3. No withdrawal of public domain lands for Ash Meadows N.W.R.	1. USBLM required by law to conserve listed species & their habitat on public lands 2. Withdrawal proceeds for Warm Springs pupfish, Ash Meadows pupfish, & Ash Meadows speckled dace	1. Increased management responsibility for endangered species 2. Increased manpower required to complete large land exchange 3. Withdrawal of public domain lands almost three times size required in fee acquisition alternative	1. USBLM required to coordinate manage- ment activities with Nevada Depart- ment of Wildlife, or TNC, or NPS

TABLE IV (Continued)
Summary of Alternative Impacts

EVALUATION CRITERIA AND IMPACTS	Alternatives				
	Fee Acquisition and Formation of N.W.R.	No Action	Partial Acquisition (Key Habitats)	Exchange for Public Land	Acquisition/Management by Others
Other Impacts 1. Archaeological	1. Archaeological &/or historic sites of importance protected	1. Private development possibly precludes protection of important archaeological &/or historic sites	1. Important archaeolog- ical &/or historic sites in key areas receive protection 2. Important archaeolog- ical &/or historic sites elsewhere unpro- tected against private development	1. Archaeological &/or historic sites of importance protected	1. Archaeological &/or historic sites could receive limited or no pro- tection with Ash Meadows in private ownership
2. Recreation	1. Hunting allowed in Ash Meadows 2. Opportunities maximized for educational, recre- ational, & scientific pursuits	1. Hunting not allowed in Ash Meadows 2. Opportunities limited for educational, recre- ational, & scientific pursuits	1. Hunting not allowed in Ash Meadows 2. Opportunities limited for educational, recre- ational, & scientific pursuits	1. Hunting allowed in Ash Meadows 2. Opportunities great but not maximal for educa- tional, recreational, & scientific pursuits	1. Hunting permitted under ownership by Nevada Department of Wildlife or TNC 2. Hunting not per- mitted under owner- ship of NPS 3. Opportunities great for educational, recreational, & scientific pursuits

V. SOCIO-CULTURAL IMPACTS

Situated at an elevation between 2,100 and 2,300 feet in southern Nevada, Ash Meadows occurs in the most arid region of the United States. The local human population is sparse, and fewer than one dozen people presently live in Ash Meadows.

Two communities located close to Ash Meadows would be the towns most influenced by the proposed action. Amargosa includes 1,800 people and lies approximately 15 miles northwest of Ash Meadows; Pahrump includes 5,000 people and lies approximately 20 miles to the southeast of Ash Meadows (Fig. 1).

The proposed action--to acquire by fee purchase 14,075 acres of private lands and withdraw 9,373 acres of public domain land in the Ash Meadows area to establish Ash Meadows National Wildlife Refuge--would incur the following impacts:

1. The communities of Amargosa and Pahrump would anticipate income and trade from CLD. Nye County, also, would anticipate an increase in revenue from taxes levied on property owners within Calvada Lakes. Amargosa would be most influenced by the proposed action, for it recently incorporated Lathrop Wells, Calvada Lakes, and Amargosa Farms into a single municipality and passed a municipal bond to finance the construction of local, community, service facilities. Without development of CL, taxes would have to be increased for the existing population to finance the bond.

2. County revenue anticipated from development of CL would not be available. The amount of revenue likely to be produced is difficult to estimate, because the speculative nature of this development implies that total occupancy would not occur immediately, but in the distant future. This type of occupation occurred in nearby Pahrump where PEC sold more than 25,000 lots during the past 12 years; these are now occupied by fewer than 2,500 people. CLD is planned to include 33,000 lots to support a population of 50,000.

The development of CL to its planned limit has been questioned by some people. The Nevada State Water Engineer stated in a letter (July 13, 1981) to Nye County that the use of groundwater permitted to PEC by several certificates issued is likely to be restricted, because a U.S. Supreme Court ruling (Cappaert vs. U.S.) limits the amount of groundwater that can be extracted from Ash Meadows; it cannot exceed amounts that will adversely affect the water level at Devils Hole. In the same letter, the engineer noted that the permitted rights of PEC for quasi-municipal purposes in Ash Meadows is insufficient to support the development of 11,676 lots. Citing the data presented by PEC regarding the CLD, the engineer recommended the application for development of Calvada Lakes Unit 2 be denied. The development of 4,745 lots in Unit 1 was approved.

3. Designation by the USFWS of plants and animals in Ash Meadows as endangered species would influence development of CL by requiring that

the development design prevent the taking, harming, or harrassing of listed animals. Scientific evidence supporting the listing of many species endemic to Ash Meadows cannot be refuted, and the 1973 Endangered Species Act, as amended, requires listings to occur when supporting biological data are presented. Private groups notified the Department of Interior, Environmental Protection Agency, and PEC of their intent to file suit against them pursuant to the Endangered Species Act because of reported evidence showing these organizations were in violation of provisions in the Endangered Species Act. Such litigation might have delayed CLD for long periods of time.

4. The USBLM and USFWS have expressed their desire to mitigate the impacts that establishing the Ash Meadows National Wildlife Refuge would have on local governments by:
 - a. Supporting the sale of public domain lands in the Amargosa area for private use
 - b. Pledging the transfer of excess subsurface water from Ash Meadows to the Amargosa area so long as such a transfer does not jeopardize the livelihood of listed and candidate species and wetlands in Ash Meadows
 - c. Presenting to Nye County, in lieu of taxes lost through discontinued taxation of private land, an annual Refuge Revenue Sharing

Act payment. 1/ The amount paid pursuant to this legislation will exceed the amount presently paid by Preferred Equities Corporation by no more than \$12,500

5. Ash Meadows would be open to the public for use of its educational, recreational, and scientific resources. Tourism would increase over the extent now occurring; in turn, this would increase revenue to local businesses.
6. All archaeologic and/or historic sites of significance located within the acquired lands would be protected.
7. All wetlands in the refuge would be protected and enhanced. This would provide for an increase in waterfowl and upland game populations as well as insure the livelihood of listed, candidate, and proposed species associated with wetlands.
8. Species listed as endangered would be conserved to the extent that removal from the list of threatened and endangered species could be

1/ Refuge Revenue Sharing Act payments are made to counties on the basis of one of the following, whichever is highest:

1. Twenty-five percent of the net revenue received from operation of the refuge.
2. Three-fourths of one percent of the cost of the property. Property costs are adjusted every five years to reflect current market values.
3. Seventy-five cents per acre.

The funding source for such payments derives from revenues generated from refuges throughout the country. In the event that insufficient revenues are available to make full-formula payments to the counties, the amount of payment is a determined percentage of the full amount calculated. Also, Congress may make up the insufficiency if it chooses to do so.

warranted. Approved recovery plans for the Devils Hole pupfish and Warm Springs pupfish indicate that habitat protection is the primary requirement for their recovery.

9. Agricultural activities, such as grazing and farming, would be discontinued, (because they conflict with conservation of endemic species.) Conflicts include water management practices that reduce habitat, and land disturbance that eliminates habitat by placing it into crop production and/or grazing while permitting an avenue for introduction of toxic chemicals.
10. New roads within the refuge would be located in accordance with requirements for conservation of local sensitive species. The road linking Amargosa and Pahrump would be relocated to avoid areas occupied by listed, proposed, and/or candidate species. Nye County has agreed to realign the existing road so it will meet these requirements. The existing road would be used until such time that the new road is constructed. Public access to the refuge and private inholdings would be maintained on many of the existing roads.
11. The rights-of-way for unbuilt county roads planned in Calvada Lakes would have to be abandoned. Abandonment of these roads would not conflict with use of existing county roads and is necessary to facilitate management of listed, candidate, and proposed species within the subject area.

VI. COORDINATION

A. Local

Protection of the Ash Meadows ecosystem has been discussed with private landowners and local governments a number of times since early 1981. Much of the interest in protection was initiated during solicitation of comments regarding the listing of the Ash Meadows Amargosa pupfish and Ash Meadows speckled dace as endangered species. As the listing process progressed, complete acquisition of Ash Meadows became the focal point of protective strategies, because PEC requested that it be allowed to trade its land in Ash Meadows for other public land in southern Nevada, or be paid for its land in Ash Meadows.

The USFWS initiated protection discussions with PEC during a meeting on January 15, 1981. Numerous subsequent meetings and discussions during the past four years involved personnel of the USFWS, USBLM, PEC, and TNC.

Public hearings on February 11, 1983 in Las Vegas, Nevada and on May 26, 1983 in Amargosa, Nevada effectively solicited comments regarding protection of Ash Meadows. Comments received at the Las Vegas hearing were generally in favor of the listing and total protection of the area; comments received during the Amargosa meeting were against listing and total protection.

On January 5, 1984 a meeting was held involving personnel from Nye County, USFWS, USBLM, PEC, TNC, and the Office of U.S. Senator Paul Laxalt. During this meeting, the original proposal for acquisition of Ash Meadows was modified to consider concerns raised by affected parties. On January 17, 1984 personnel of the USFWS, PEC, and TNC met with the Nye County Board of Commissioners to discuss the amended proposal.

Numerous informal conversations, also, were held with local land-owners, Nye County officials, USBLM personnel, and representatives of TNC.

Local and national conservation organizations have endorsed the proposed action.

Scheduled for March 1984 in Amargosa, Nevada is a public hearing regarding a proposal to list as endangered the plants endemic to Ash Meadows and the acquisition of Ash Meadows by the USFWS.

B. State

Letters approving the proposed action of the USFWS have been presented by Richard Bry, Governor of Nevada, Paul Laxalt, U.S. Senator, and William Mollini, Director, Nevada Department of Wildlife.

The Nevada State Clearinghouse was notified (September 19, 1983), via OMB Circular A-95 procedure, of the intended project preparatory to completion of the Environmental Assessment. Copies of the E.A. will be sent to the Clearinghouse.

Compliance by the Service with Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) was indicated in the E.A. by stating, "With the exception of restoring the marsh in Carson Slough, the Service plans no significant changes relative to floodplain or wetlands on the Ash Meadows lands once they are in refuge status.

Relative to the Endangered Species Act, a Section 7 Consultation was sought and concurrence was received (Appendix A).

The Nevada Division of Historic Preservation and Archaeology (Department of Conservation and Natural Resources) has indicated the existence of many archaeological sites in Ash Meadows (Appendix B). Following establishment of the refuge, the National Historic Preservation Act of 1966, as amended and refuge policy will assure protection to any such sites of significant importance.

Copies of this Land Protection Plan will be sent to Nye County officials, the Nevada Division of State Lands, the Nevada State Clearinghouse, owners of land in Ash Meadows, the Amargosa Town Board, and other interested parties.

VII. FINDINGS AND RECOMMENDATIONS

A. Existing Protection

The four fishes endemic to Ash Meadows are protected from being taken, harmed, or harassed by their listing as endangered pursuant to the 1973 Endangered Species Act, as amended. No other animals endemic to Ash Meadows are presently protected. The State of Nevada lists the Ash Meadows milk-vetch, spring-loving centaury, Ash Meadows gumplant, and Ash Meadows stickleaf as critically endangered plants. This recognition prohibits their collecting without a permit but does not protect their habitats.

Populations of listed, proposed, and candidate organisms occur on public lands in Ash Meadows, but not all endemic organisms are found on such lands. Those on public lands are protected from immediate impacts of CLD; those found only on private lands are not. No listed, proposed, or candidate species are protected from long-term impacts anticipated from the population of 50,000 people planned to occupy Calvada Lakes.

Agricultural and mining activities plus the introduction of exotic plants and animals have reduced the habitat occupied by listed and candidate species. Continuation of these and similar activities will cause extinction of all species endemic to Ash Meadows.

B. Priorities for Protection

The land proposed for CLD should be acquired immediately. A protective withdrawal, proposed earlier and listed formally in the Federal Register, of USBLM land (1,798 acres) that includes habitat for the Warm Springs pupfish, Ash Meadows Amargosa pupfish, Ash Meadows speckled dace, and certain candidate plants should proceed on schedule to finalization. This withdrawal should be completed by ____?____.

The parcels of private land should be acquired on a willing seller basis and should occur as respective landowners voice their wishes to release their holdings.

C. Methods of Protection

The preferred method of protection is:

1. Private lands: All private lands in the area should be acquired eventually to alleviate conflicts with conservation of listed, proposed, and candidate species. The land owned by PEC/TNC should be purchased first.
2. Public lands: All public domain lands within the proposed refuge boundary should be withdrawn (Fig. 6). Withdrawal should proceed in a systematic manner with those lands presently proposed for withdrawal receiving protection first. Remaining public domain lands could be initially managed through an agreement between

USFWS and USBLM whereby the Service would assume primary management responsibility. This management agreement would end upon protective withdrawal of the public domain lands.

D. Excess Lands

There are no excess lands relative to the proposed acquisition. The proposed refuge boundary includes the minimal area required to protect local groundwater aquifer integrity, to include most populations of listed and candidate species, and to facilitate management. The proposed acreage is believed to be the minimum required to provide for recovery of the listed, endangered Devils Hole pupfish, Warm Springs pupfish, Ash Meadows Amargosa pupfish, and Ash Meadows speckled dace.

UNITED STATES GOVERNMENT

FISH AND WILDLIFE SERVICE

Memorandum

TO : Assistant Regional Director, Federal Assistance,
Portland, OR

DATE: February 2, 1984

FROM : Manager, Great Basin Complex, Reno, NV

SUBJECT: Endangered Species Section 7 Internal Evaluation - Acquisition of Ash Meadows,
Nevada

1. Case number: 1-5-84-FW-1
2. Project Office: Great Basin Complex, Reno, NV
3. Programs: Endangered Species
Wildlife Resources
4. Listed species or their critical habitats considered:
 - a. Within the action area -

Devils Hole pupfish	(<u>Cyprinodon diabolis</u>)
Warm Springs pupfish	(<u>Cyprinodon nevadensis pectoralis</u>)
Ash Meadows Amargosa pupfish	(<u>Cyprinodon nevadensis mionectes</u>)
Ash Meadows speckled dace	(<u>Rhinichthys osculus nevadensis</u>)
 - b. Adjacent to the action area -

None
5. Proposed endangered species within or near the project area:
 - a. Proposed species -

Ash Meadows sunray	(<u>Enceliopsis nudicaulis corrugata</u>)
Ash Meadows milk-vetch	(<u>Astragalus phoenix</u>)
Ash Meadows gumplant	(<u>Grindelia fraxino-pratensis</u>)
King ivesia	(<u>Ivesia eremica</u>)
Spring loving centaury	(<u>Centaurium namophilan var. namophilum</u>)
Ash Meadows stick-leaf	(<u>Mentzelia leucophylla</u>)
Amargosa niterwort	(<u>Nitrophila mohavensis</u>)
Point of Rocks naucorid	(<u>Ambrysus amargosus</u>)
6. Name and description -

Proposed acquisition of Private Lands and Withdrawal of public Lands
to Establish the Ash Meadows National Wildlife Refuge.

Implementation of this proposal will allow the flora and fauna of Ash Meadows to receive maximum protection immediately and in perpetuity. All activities conducted in Ash Meadows will be managed with the above basic premise in mind. However, the area will be open to public use for scientific, educational, and recreational purposes, in addition to other uses - all compatible with purposes for existence of the refuge. The areas previously disturbed by past development would be returned to their natural state; endemic flora and fauna will be reestablished in locations where they have been extirpated. In Carson Slough the marsh will be reestablished, and hunting for waterfowl and upland game encouraged. Public access to Ash Meadows will not be prohibited, but will be controlled in a manner to conserve the local endemic plants and animals. Management will occur with the cooperation of the Nevada Department of Wildlife.

Acquisition will proceed with the local holdings of Preferred Equities Corporation (PEC) (12,654 acres), including its mineral and water rights, being first purchased by The Nature Conservancy (TNC) and then sold to the USFWS. This approach will enable PEC to receive payment for its land much more rapidly than if the purchase agreement were negotiated and consummated between PEC and the USFWS.

The area requiring protection consists of approximately 22,000 acres of public and private lands. This includes most of the habitats occupied by endemic plants and animals and the area where groundwater removal most influences the discharge of local springs.

Private lands, other than PEC, in Ash Meadows constitute approximately 1,261 acres and are lands not required for the continued existence of any species, even though endemic plants and animals occur on them. Acquisition of these lands will be proposed for the future, whenever and if the owners desire to sell.

Following establishment of a national wildlife refuge, protective withdrawal of all public lands - for wildlife conservation - within the refuge boundary will be requested of the U.S. Bureau of Land Management (USBLM). This will include approximately 8,360 acres presently managed by the USBLM.

Since the entire Ash Meadows area will be the responsibility of and managed by the U.S. Fish and Wildlife Service, a Memorandum of Understanding (MOU) will be developed between the USBLM and the USFWS designating public domain lands in Ash Meadows as part of the National Wildlife Refuge System.

7. Location: See attached map

8. Objectives of the action:

The land proposed for inclusion into the Ash Meadows National Wildlife Refuge includes most of the habitat occupied by approximately 25 endemic species of plants and animals and a minimal

area where hydrologic data indicates that groundwater removal will most effect the water level and/or discharge of springs occupied by endangered fishes and supporting populations of proposed endangered and candidate species. It includes all critical habitat for the Ash Meadows Amargosa pupfish and Ash Meadows speckled dace. Much of the proposed critical habitat for the King Ivesia, Ash Meadows century, Ash Meadows milk-vetch, Ash Meadows stick-leaf, Ash Meadows sunray, Ash Meadows gumplant, and the Point of Rocks naucorid.

It also includes all of the Warm Springs pupfish essential habitat and a portion of the Devils Hole pupfish essential habitat. These habitats are defined in approved recovery plans as the areas that must be protected in order to accomplish recovery of these two fishes.

The local distribution of endemic plant and animal taxa within Ash Meadows, the fragile nature of these desert aquatic and terrestrial environments, the intimate relationship between spring discharge viability and groundwater aquifer integrity, and the historic presence of a large marsh in Carson Slough combine to support the proposed refuge boundary. The area provides a valuable and unprecedented example of desert oases that are extremely uncommon in the southwestern U.S. and, with proper management, will also provide a productive resource to be used for waterfowl and upland game hunting.

The objective of this proposal is to protect a unique desert oasis that provides habitat for the greatest local concentration of endemic plants and animals found anywhere within the United States. This protection would be provided by including the area within the National Wildlife Refuge system and managing activities to specifically conserve the sensitive species. A management plan will be prepared to specify appropriate management. This will be prepared utilizing approved recovery plans for the Devils Hole pupfish and Warm Springs pupfish, and a recovery plan that will be prepared to guide the recovery and protection of all other listed and candidate organisms in Ash Meadows.

9. Explanation of impact on endangered species:

Management of these lands will be dedicated to the conservation of native and endemic flora and fauna by including Ash Meadows within the National Wildlife Refuge System. This proposal will utilize the \$5,000,000 authorized by Congress to establish the Ash Meadows National Wildlife Refuge.

This proposal will provide the best possible protection for the endemic plants and animals. Disturbed areas will be reclaimed to their natural character; this will entail reestablishing the marsh in Carson Slough, reestablishing the endemic plants and animals in those areas where they have been eliminated, reestablishing mesquite woodlands that have been destroyed or displaced by saltceder (Tamarisk sp.) and crop production, and eliminating exotic and non-native plants and animals. Management of the area will encourage

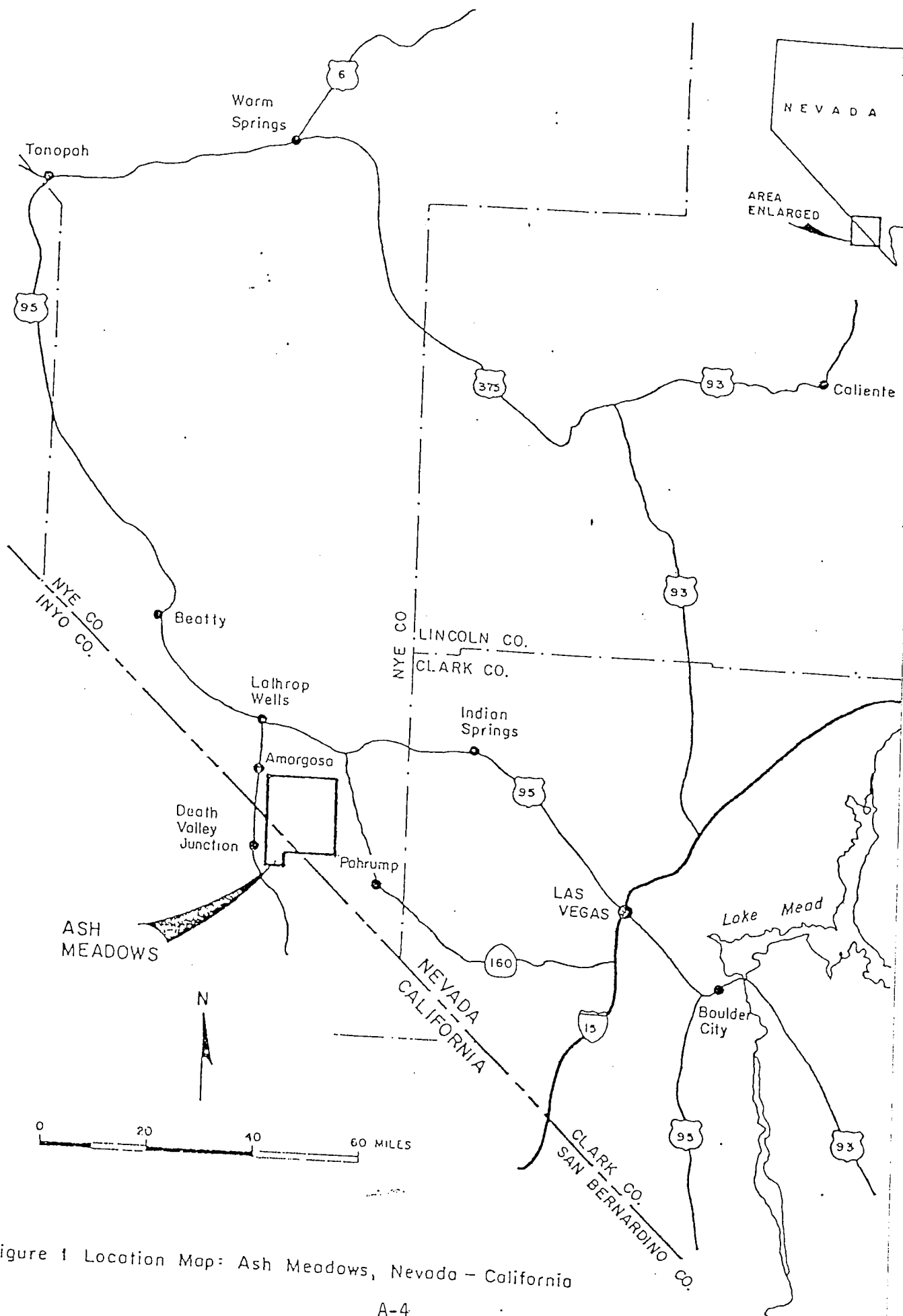


Figure 1 Location Map: Ash Meadows, Nevada - California

hunting of upland game and waterfowl, and visitation for educational, scientific, and other recreational reasons. Farming and grazing are activities that are not compatible with the management of game and migratory birds or endemic plants and animals and is therefore not an acceptable use.

10. Conclusion:

The action may beneficially affect listed and proposed species shown above.

11. Recommendation:

Implementation of the proposed acquisition to establish the Ash Meadows National Wildlife Refuge is recommended. This action will promote the conservation of the listed endangered Devils Hole pupfish, Warm Springs pupfish, Ash Meadows Amargosa pupfish, and Ash Meadows speckled dace, and protect critical habitat of the Ash Meadows Amargosa pupfish and Ash Meadows speckled dace. Acquisition will also promote the conservation of seven species of plants and one species of insects that are presently proposed for listing as endangered.

A biological opinion is not required to fulfill Section 7 requirements of the 1973 Endangered Species Act, as amended, because the proposed acquisition occurs on the USFWS 1984 Annual Work Plan as a required task.

SECTION 7 EVALUATION CONCURRENCE

PROJECT LEADER

Donald J. [Signature]

DATE: 2/2/84

Comments:

CHIEF, ENDANGERED SPECIES

[Signature]

DATE: 2/15/84

Comments:

ARD- REFUGES

[Signature]

DATE: 2/15/84

Comments:

ARD-AFA

William J. [Signature]

DATE: 2/15/84

Comments:

List of Figures

Figure 1 Diagrammatic cross section of the Devil's Hole cavern system, as presently known.

Figure 2 Monthly mean maximum water level in Devil's Hole, 1967-1988. Triangles designate, sequentially from left to right, time of occurrence of the following events: suit filed in District Court and three wells shut down; suit reactivated; preliminary injunction; permanent injunction; Supreme Court ruling; final water level ordered by District Court.

Figure 3 Bumper stickers displayed during the period of controversy over the Devils Hole pupfish.



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF HISTORIC PRESERVATION AND ARCHEOLOGY

201 S. Fall Street

Capitol Complex

Carson City, Nevada 89710

(702) 885-5138

January 19, 1984

Mr. Donald W. Sada
Fish and Wildlife Service
Great Basin Complex Office
4600 Kietzke Lane - Bldg. C
Reno, NV 89502-5093

Dear Mr. Sada:

This letter is in regards to your request for information on the Ash Meadows locale in southern Nevada. Ash Meadows, in part because of the many springs, was intensely utilized by prehistoric peoples. What little archeological work that has been conducted has revealed a wealth of sites; the entirety of the proposed refuge is an area of high archeological sensitivity.

This office does not have copies of cultural resource reports from that area. We recommend you contact Ms. Lynda Blair of the Museum of Natural History, University of Nevada, Las Vegas, 4505 S. Maryland Parkway, Las Vegas, Nevada 89154; telephone (702) 739-3743. Copies of all site reports for southern Nevada are maintained at the Museum by Ms. Blair.

Specific site information should not be included in documents made available to the public. However, more general information regarding the prehistoric and historic inhabitants is appropriate.

If you have any questions or if we could be of further assistance, please call us.

Sincerely,

A handwritten signature in cursive script that reads "Alice M. Becker".

ALICE M. BECKER
Staff Archeologist

AMB/lmw

cc: Lynda Blair

